

# Power Inductor for Critical Applications ST511PNA



- 6.1 × 6.1 mm footprint; 3.2 mm high shielded inductors
- Low DCR and excellent current handling

**Core material** Ferrite

**Terminations** RoHS compliant gold over nickel over phos bronze. Other terminations available at additional cost.

**Weight** 0.33 – 0.38 g

**Ambient temperature** –40°C to +85°C with Irms current, +85°C to +125°C with derated current

**Storage temperature** Component: –55°C to +125°C. Tape and reel packaging: –40°C to +80°C

**Resistance to soldering heat** Max three 40 second reflows at +260°C, parts cooled to room temperature between cycles

**Moisture Sensitivity Level (MSL)** 1 (unlimited floor life at <30°C / 85% relative humidity)

**Packaging** 500/7" reel; Plastic tape: 16 mm wide, 0.3 mm thick, 12 mm pocket spacing, 3.1 mm pocket depth

**PCB washing** Only pure water or alcohol recommended

Part number <sup>1</sup>	Inductance <sup>2</sup> ±20% (µH)	DCR max (Ohms)	SRF typ <sup>3</sup> (MHz)	Isat (A) <sup>4</sup>			Irms (A) <sup>5</sup>	
				10% drop	20% drop	30% drop	20°C rise	40°C rise
ST511PNA472MLZ	4.7	0.056	65.0	2.18	2.60	2.84	2.30	3.10
ST511PNA562MLZ	5.6	0.060	60.0	2.10	2.50	2.74	2.20	2.95
ST511PNA682MLZ	6.8	0.065	47.0	1.80	2.12	2.30	2.10	2.80
ST511PNA822MLZ	8.2	0.070	45.0	1.78	2.06	2.22	2.00	2.65
ST511PNA103MLZ	10	0.085	39.0	1.36	1.64	1.84	1.90	2.50
ST511PNA123MLZ	12	0.110	33.0	1.30	1.54	1.70	1.75	2.35
ST511PNA153MLZ	15	0.135	27.0	1.16	1.42	1.56	1.65	2.20
ST511PNA183MLZ	18	0.160	24.0	1.04	1.22	1.36	1.55	2.05
ST511PNA223MLZ	22	0.190	21.0	0.97	1.12	1.22	1.45	1.90
ST511PNA273MLZ	27	0.235	19.0	0.91	1.08	1.18	1.30	1.75
ST511PNA333MLZ	33	0.310	18.0	0.81	0.96	1.10	1.20	1.60
ST511PNA393MLZ	39	0.345	17.0	0.79	0.92	0.99	1.10	1.45
ST511PNA473MLZ	47	0.380	16.0	0.72	0.86	0.93	0.95	1.30
ST511PNA563MLZ	56	0.430	14.0	0.61	0.72	0.79	0.85	1.15
ST511PNA683MLZ	68	0.580	12.0	0.55	0.63	0.69	0.73	1.00
ST511PNA823MLZ	82	0.640	10.0	0.53	0.62	0.67	0.60	0.85
ST511PNA104MLZ	100	0.820	9.0	0.45	0.54	0.59	0.50	0.69

1. When ordering, please specify **termination** and **testing** codes:

ST511PNA104MLZ

**Termination:** L = RoHS compliant gold over nickel over phos bronze.

Special order:

T = RoHS tin-silver-copper (95.5/4/0.5) or

S = non-RoHS tin-lead (63/37).

**Testing:** Z = COTS

H = Screening per Coilcraft CP-SA-10001

2. Inductance tested at 100 kHz, 0.1 Vrms, 0 Adc using an Agilent/HP 4263B LCR meter or equivalent.

3. SRF measured using Agilent/HP 4191A or equivalent.

4. DC current at which the inductance drops the specified amount from its value without current.

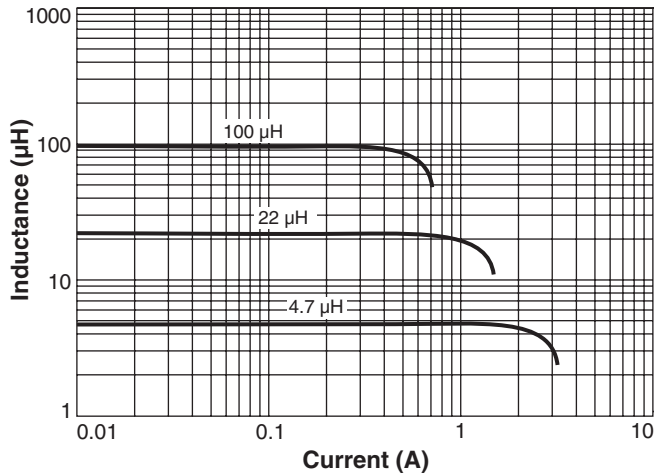
5. Current that causes the specified temperature rise from 25°C ambient.

6. Electrical specifications at 25°C.

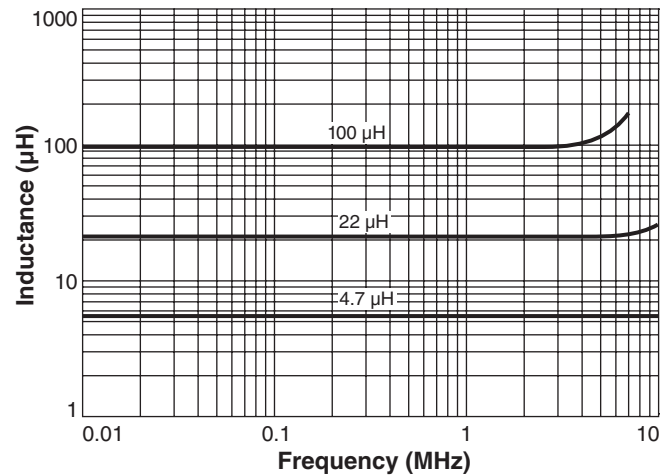
Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

# Power Inductors – ST511PNA

## Typical L vs Current



## Typical L vs Frequency



## Irms Derating

